Potamogeton spp. - *Ceratophyllum* spp. Midwest Herbaceous Vegetation

COMMON NAME	Pondweed species - Coontail species Midwest Herbaceous Vegetation
SYNONYM	Midwest Pondweed Submerged Aquatic Wetland
PHYSIOGNOMIC CLASS	Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS	Hydromorphic rooted vegetation (V.C)
PHYSIOGNOMIC GROUP	Temperate or subpolar hydromorphic rooted vegetation (V.C.2)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural Temperate or subpolar hydromorphic-rooted vegetation (V.C.2.N)
FORMATION	Permanently flooded temperate or subpolar hydromorphic rooted vegetation (V.C.2.N.a)
ALLIANCE	POTAMOGETON SPP. - CERATOPHYLLUM SPP. - ELODEA SPP. PERMANENTLY FLOODED HERBACEOUS ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 3

USFWS WETLAND SYSTEM Permanently flooded temperate or subpolar hydromorphic rooted vegetation

CONCEPT SUMMARY

Globally

This broadly defined submerged aquatic or open marsh type is found throughout the midwestern region of the United States and adjacent Canada. Based on information in the northern parts of the Midwest, several vegetation subgroups can be recognized that may be separate associations. Subgroup A is a shallow (<50 cm), sparsely vegetated, open water marsh found on sand, or organic and mineral material trapped in rocky bottoms. Stands are often exposed to wave action and found in oligotrophic lakes. Dominant plants often have basal rosettes that are resistant to wave action. Typical species include *Elatine minima, Eriocaulon aquaticum, Gratiola aurea, Isoetes tenella (= Isoetes echinospora), Isoetes lacustris (= Isoetes macrospora), Juncus pelocarpus*, and *Lobelia dortmanna*. Subgroup B is a shallow (<50 cm) open water marsh with emergent cover <25% and floating-leaved aquatics >25%. Substrate is a mineral soil (often sand), boulders, or a mixture of sedimentary peat and fine mineral soil. Stands can be exposed to waves or are in stream channels. Stands may often be dominated by a single species. Typical dominants include *Eleocharis acicularis, Myriophyllum* spp., *Potamogeton amplifolius, Potamogeton gramineus, Potamogeton praelongus, Potamogeton robbinsii, Sparganium fluctuans*, and *Utricularia macrorhiza (= Utricularia vulgaris)*. Subgroup C includes open water marsh with emergent cover <25% and floating leaved aquatics >25%. Substrate is sedimentary peat and stands are often found in sheltered bays of lakes and streams that do not have high wave energy. Stands may often be dominated by a single species. Typical dominants include *Ceratophyllum demersum, Lemna* spp., *Myriophyllum sibiricum, Myriophyllum verticillatum, Potamogeton natans, Stuckenia pectinata (= Potamogeton pectinatus), Potamogeton richardsonii, Potamogeton zosteriformis, Ranunculus aquatilis, Utricularia macrorhiza (= Utricularia vulgaris)*, and *Vallisneria americana*.

RANGE

Effigy Mounds National Monument

This community occurs in Founders Pond, and is widespread nearby in backwaters of the Mississippi River.

Globally

This pondweed submerged aquatic type is found widely throughout the midwestern United States and adjacent Canada, ranging from Ohio and Ontario west to North Dakota and south to Iowa.

ENVIRONMENTAL DESCRIPTION

Effigy Mounds National Monument

This community type occurs in shallow water of ponds. The substrate is muck and water depth is 1–1.5 m.

Globally

Curtis (1959) [see also Swindale and Curtis (1955)] noted that the major environmental controls on submerged aquatic vegetation are water depth (as it relates to light intensity), water chemistry, water movement, and nature of the substrate. Various combinations of these factors can interact in a variety of ways to influence the local composition of the community. As a result, a single lake may contain a number of relatively homogeneous stands, each with a different species makeup, which depends on depth, nature of adjoining shoreline, degree of protection from waves, etc. Water chemistry may be one of the few constants. Assessment of water conductivity and alkalinity are two measured parameters that can provide some understanding of the influence of water chemistry on species composition.

MOST ABUNDANT SPECIES

Effigy Mounds National Monument

Stratum	Species
FORB	*Ceratophyllum demersum, Elodea canadensis, Potamogeton crispus*

Globally

Stratum	Species

CHARACTERISTIC SPECIES
Effigy Mounds National Monument
Ceratophyllum demersum, Elodea canadensis, Potamogeton crispus

Globally

VEGETATION DESCRIPTION
Effigy Mounds National Monument
This community is an open water marsh dominated by submersed aquatic vegetation.

Globally
Based on information in the northern parts of the Midwest, several vegetation subgroups can be recognized that may be separate associations. Subgroup A is a shallow (<50 cm), sparsely vegetated, open-water marsh found on sand, or organic and mineral material trapped in rocky bottoms. Stands are often exposed to wave action and found in oligotrophic lakes. Dominant plants often have basal rosettes that are resistant to wave action. Typical species include *Elatine minima, Eriocaulon aquaticum, Gratiola aurea, Isoetes tenella (= Isoetes echinospora), Isoetes lacustris (= Isoetes macrospora), Juncus pelocarpus*, and *Lobelia dortmanna* (Curtis 1959, Harris et al. 1996). Subgroup B is a shallow (<50 cm), open-water marsh with emergent cover <25% and floating-leaved aquatics >25%. Substrate is a mineral soil (often sand), boulders, or a mixture of sedimentary peat and fine mineral soil. Stands can be exposed to waves or are in stream channels. Stands may often be dominated by a single species. Typical dominants include *Eleocharis acicularis, Myriophyllum* spp., *Potamogeton amplifolius, Potamogeton gramineus, Potamogeton praelongus, Potamogeton robbinsii, Sparganium fluctuans*, and *Utricularia macrorhiza (= Utricularia vulgaris)*. Subgroup C includes open-water marsh with emergent cover <25% and floating-leaved aquatics >25%. Substrate is sedimentary peat, and stands are often found in sheltered bays of lakes and streams that do not have high wave energy. Stands may often be dominated by a single species. Typical dominants include *Ceratophyllum demersum, Lemna* spp., *Myriophyllum sibiricum, Myriophyllum verticillatum, Potamogeton natans, Stuckenia pectinata (= Potamogeton pectinatus), Potamogeton richardsonii, Potamogeton zosteriformis, Ranunculus aquatilis, Utricularia macrorhiza (= Utricularia vulgaris)*, and *Vallisneria americana* (Curtis 1959, Harris et al. 1996).

OTHER NOTEWORTHY SPECIES

CONSERVATION RANK G5.

DATABASE CODE CEGL002282

COMMENTS
Effigy Mounds National Monument

Globally

REFERENCES
Curtis, J. T. 1959. The vegetation of Wisconsin: An ordination of plant communities. University of Wisconsin Press, Madison. 657 pp. [reprinted in 1987]

Harris, A. G., S. C. McMurray, P. W. C. Uhlig, J. K. Jeglum, R. F. Foster, and G. D. Racey. 1996. Field guide to the wetland ecosystem classification for northwestern Ontario. Ontario Ministry of Natural Resources, Northwest Science and Technology, Thunder Bay, Ontario. Field guide FG-01. 74 pp. plus appendix.

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Swindale, D. N., and J. T. Curtis. 1957. Phytosociology of the larger submerged plants in Wisconsin lakes. Ecology 38:397–407.